

## ABSTRACT

An apparatus and method for extracting messages from a data stream has multi-tasking capabilities for accommodating a greater number of data streams and for combining data from different streams. The message extractor includes a packet identifier filter, a control message processor, and two buffers, each buffer divided into a plurality of address locations associated with a plurality of channels. One buffer is used to store extracted message portions, and the other buffer is used to store state data corresponding to the extracted message portions. The control message processor includes a single message processor that is shared by all of the message extraction channels associated with the device. As message portions are filtered and captured, they are stored into the first buffer, while the state data is stored in the second buffer. As additional message portions are received, the system uses identifying data in the data stream to match new message portions with message portions that have already been received and stored to form complete messages. A multi-tasking message extractor reduces the cost of performance by only requiring one message extractor attached to less expensive RAM rather than increasing the number of message extractors themselves.

R0094140